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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/036,802

12/21/2001

Toshiaki Fujii

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EXAMINER

KEENAN, JAMES W

ART UNIT

PAPER NUMBER

3652

NOTIFICATION DATE

DELIVERY MODE

03/02/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/036,802	<b>Applicant(s)</b> FUJII ET AL.	
	<b>Examiner</b> James Keenan	<b>Art Unit</b> 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2010 (RCE).
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9,11-15 and 24-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9,11-15 and 24-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/29/10 has been entered.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9, 11-15, 24-28, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muka et al (US 5,613,821) in view of Ueda et al (US 6,074,154) and Briner et al (US 5,810,537), all previously cited.

Muka shows an apparatus for transporting a dust-free article, comprising a container 32 for receiving dust free articles therein and which is mountable on a loader 60 such that the entire container remains in a low cleanliness room while a cover 42 to be removed from the container faces a high cleanliness room 22, wherein the loader comprises an opening portion 78 disposed in the low cleanliness room in a border location between the high and low cleanliness rooms and a door 80 for opening and closing the opening portion, and further wherein the container comprises an opening

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port 38 through which the article is transferred to the high cleanliness room, the cover 42 is unified with the door 80 in the low cleanliness room and moves with the door to open and close the opening portion, and a fixing means 50-56 (fig. 5) fixes the cover to the port when the article is enclosed in the container.

Muka does not show the high cleanliness room as having a higher pressure than the low cleanliness room, nor is there a gap around the door to allow air to flow from the high cleanliness room to the low cleanliness room. Muka also does not show a horizontally movable stage and a means for moving the stage away from the wall that separates the low and high cleanliness rooms to separate the container from the cover when unified with the door.

Ueda shows in figures 6-9 (see in particular fig. 8E) a movable stage 80 and a means 82 for horizontally moving the stage and a wafer container CR thereon away from a wall 32 that separates low and high cleanliness rooms in a wafer processing apparatus, to separate the container from its cover 44 when unified with door 49 (col. 10, lines 60-65). This is disclosed as a desirable alternative to systems without a movable stage; in fact, it is an alternative embodiment to systems (figs. 10-18 and 19-21 embodiments) in which the cover removing mechanism performs both the Y-axis (horizontal) and Z-axis (vertical) movements, and explicitly recites the benefits of simplifying the cover removing mechanism and of generating fewer dust particles (col. 12, lines 1-6). Further, Ueda discloses in col. 13, lines 41-53 that the air pressure in transfer chamber 31 is higher than that of the external environment, so that air from the external environment and the cassette is prevented from entering the transfer chamber.

Briner shows loader 10, stage 12 with movable lift ring 16, container 36 with cover 38, and door 26 in opening portion of wall 24 that separates a low cleanliness room from a high cleanliness room, wherein the high cleanliness room has a higher pressure than the low cleanliness room. Briner further shows the door to have “a slight air gap around its periphery” between it and the opening portion through which air flows out from the high cleanliness room (col. 5, lines 3-19).

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified Muka such that the high cleanliness room had a higher pressure than the low cleanliness room, as suggested by Ueda and Briner, as a means of preventing contamination. To have included the air gap of Briner as the specific means of allowing air to flow from the high pressure area in the apparatus of Muka would have been an obvious art recognized means to further reduce contamination.

Further, it would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Muka by utilizing a driver to move the stage horizontally away from the wall to separate the container from the unified cover/door assembly, as shown by Ueda, to provide the art recognized advantages of a simplified cover removal mechanism which generates fewer dust particles.

Finally, it is noted that in the apparatus of Muka as modified in the above manner, the container, when separated from the unified cover/door assembly by being moved away from the wall, would inherently be “positioned such that [at least some of] the air flowing out from the high cleanliness room ... will flow into the open container”, as broadly claimed.

Re claims 11, 26 and 33, note front cover 70 of Muka.

Re claims 12 and 25, see figure 9 of Muka.

Re claim 13, the feature is clearly shown by Ueda.

Re claim 14, although Muka does not show the container to include a protrusion with a hole in which a pin is inserted to unify the cover and door, a similar structure including recess 186 into which fingers 194 are inserted is shown in figures 13-15. It would have been obvious for one of ordinary skill in the art at the time of the invention to have additionally modified the apparatus of Muka by utilizing a protrusion with a hole in place of the recess, as this would simply be an alternate equivalent design expediency.

Re claims 15 and 27, note "driving device" 82 of Ueda.

Re claim 28, although Muka does not explicitly teach an air cleaning device, the addition of such a feature is considered an obvious design expediency, in light of the fact that: a) Muka is used in a clean environment, and b) such devices are generally well known in this art, particularly since no structural details of the device are recited.

4. Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muka et al in view of Briner et al and Ueda et al, as applied to claims 9, 11-15, 24-28, and 32-33 above, and further in view of Toshima et al (US 5,186,594), previously cited.

While the mini-environment of Muka is properly considered a "low cleanliness room", as broadly recited, at least under certain circumstances (as thoroughly explained in previous Office actions and acknowledged by the Board of Appeals in their decision affirming the examiner's rejection), it is unclear if the mini-environment is less clean than

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the high cleanliness room while the dust-free article is being transferred, and thus there is no explicit disclosure that the loader is located in the low cleanliness room while the article is being transferred.

Toshima, however, shows a door opener 24 (loader) for opening and closing a door 21 disposed in a border region between a load lock 8 (high cleanliness room) and an outside environment (low cleanliness room), wherein the loader is disposed in the low cleanliness room while a cassette containing dust-free articles is transferred between the low and high cleanliness rooms.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the method of Muka by locating the loader in the low cleanliness room while the dust-free articles were being transferred, as suggested by Toshima, to provide even further assurance that no particles generated by the loader could contaminate the high cleanliness room.

5. Applicant's arguments filed 11/29/10 have been fully considered but they are not persuasive.

Applicant argues that Ueda does not take into account the gap that results when the cassette is moved away from the high cleanliness transfer chamber, resulting in low cleanliness air potentially contaminating the open cassette. Applicant acknowledges that Briner teaches an air gap that allows air at positive pressure to flow from a high cleanliness area to a low cleanliness area to prevent contamination, but argues that this is done only during article transfer. This is piecemeal analysis of the references. One

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cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. The test for obviousness is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, at least some of the air flowing out from the high cleanliness room would inherently flow into the open container of the modified apparatus of Muka, as noted above. The claims do not set forth any requirements concerning the time during which the flow of air into the open container occurs, and thus the argument that Briner teaches an air flow only during article transfer is not germane to the scope of the claims. Clearly, if the air flow occurs when articles are being transferred, the container would be open. Furthermore, applicant's assertion that Ueda fails to take into account that the retraction of the cassette away from the high cleanliness transfer chamber would leave the open cassette exposed to the low cleanliness air of the external environment is believed to be unfounded. Col. 10, line 66 to col. 11, line 3, and col. 11, lines 11-14 and 65-67 of Ueda disclose that when in the second position (i.e., Fig. 8E), the front portion of the cassette is within the passage 33a, and thus the atmosphere in the cassette communicates with that of the process system 1 so that particles from the clean room (the external environment) are prevented from entering the process system. Further still, col. 13, lines 41-53 of Ueda disclose that the air pressure in transfer chamber 31 is higher than that of the external environment, so that dust-laden air from the external environment or cassette is prevented from entering the transfer chamber, as noted above.



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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is 571-272-6925. The examiner can normally be reached on Mon. - Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on 571-272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James Keenan/  
Primary Examiner  
Art Unit 3652

2/24/11